

# AEROSPACE SYSTEMS IMPLEMENTATION, TESTING AND INTEGRATION within Systems Engineering

LMS-CP-5506  
Revision: D  
proposed mod  
2/14/08

## Objectives:

- to fabricate, acquire, assemble, integrate, test and deliver components, assemblies and systems following approved designs and plans
- to identify those items which do not meet requirements and take appropriate corrective action

Approval \_\_\_\_\_  
Associate Director Date

Branch Head(s)

START

Accept Work Request, approved Development Plan(s) and other design documentation from LMS-CP-5502 or LMS-CP-5504 (see Note 1)

Test only?

Yes

No

Perform a preliminary implementation assessment and update the work agreement as needed (see Note 2)

Further definition required?

No

Yes

Assign technical representative(s) to work with requester to resolve issue(s)

**Technical Lead(s)/  
Team(s)**

Review the design documentation and Development Plan(s) for adequate implementation information (see Note 3)

Assign implementation technical lead(s) and form team(s)

Information adequate?

Yes

No

Work with the requester to resolve the issue(s)

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## General Information

The following records are generated by this procedure and should be maintained in accordance with LMS-CP-2707:

Requirements, Performance Specifications  
Development Plan  
Configuration Management Plan  
Product Assurance Plan  
Engineering Drawings  
Test Procedures  
Test Results/Reports  
Assembly Procedures  
Installation & Activation Procedures

## Note 1

Work request can take the form of:

- Workforce and project requirements requests from Workforce Integrated Management System (WIMS) or other Office of the Chief Financial Officer Systems.
- Approved Engineering Drawings (work must be covered under a signed Work Agreement)

Design documentation includes:

- Performance specifications
- Engineering Drawings
- Assembly instructions
- Data sheets

Development Plan(s) include:

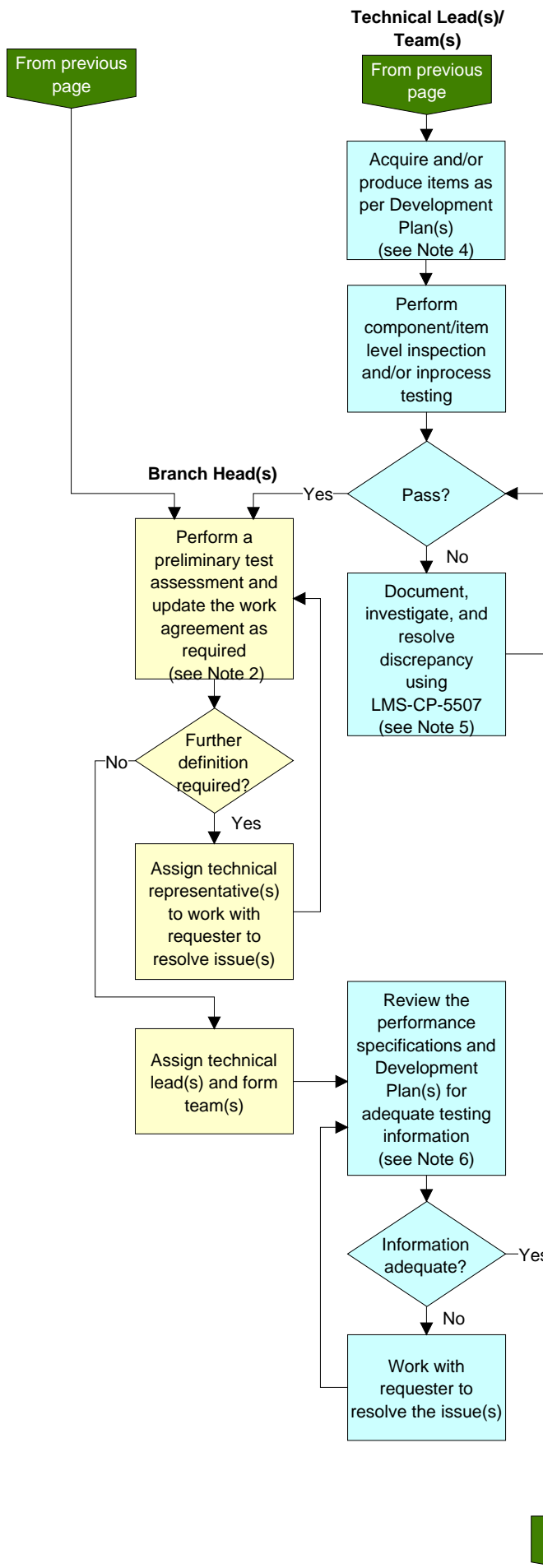
- Acquisition Plan(s)
- Product Assurance requirements
- Configuration management requirements
- Planned reviews
- Test/validation requirements
- Integration requirements

## Note 2

The preliminary implementation or test assessment must include consideration of the following:

- Type and purpose of end item, e.g. engineering model, prototype or deliverable for lab or flight use
- Completeness and approval of the documentation received
- Scope and complexity of the effort
- Resources required, financial, physical, and personnel
- Availability of resources and expertise, both in-house and externally
- Risk factors and schedule

If, at any time, the cumulative FTE branch commitment growth exceeds 25%, discuss with project sponsor. If the activity is no longer viable, the requester must be advised that the activity cannot proceed. It is the responsibility of competency managers to assist in reestablishing priorities and resolving any conflicts/issues. If issues cannot be resolved, the activity must be recommended for termination.



#### Note 3

Review design documentation and Development Plan(s) for:

- Completeness and accuracy of design documentation
- Produce assurance and configuration management requirements
- Specification of fabrication controls and records
- Calls for special processing and/or handling and storage requirements
- Required certifications for items/products to be procured or produced

If cannot resolve issues, the requester must be advised that the activity cannot proceed. It is the responsibility of competency managers to assist in reestablishing priorities and resolving any conflicts/issues. If issues cannot be resolved, the activity must be recommended for termination.

#### Note 4

Procure products and/or services following LMS-CP-4501.

Acquire through Space Act Agreement following LAPD 1050.2 or LF 455.

Develop software following LMS-CP-5528.

Fabricate hardware following LMS-CP-5640.

Establish and utilize bonded and/or controlled stores as appropriate following LMS-CP-4892 or LMS-CP-5514.

#### Note 5

Discrepancy is documented and dispositioned using LMS-CP-5507.

When a discrepancy is encountered, the affected procedure or operation is discontinued in an orderly manner.

It is the responsibility of the Technical Lead and/or cognizant engineer/technician to determine if nonconforming item/product or failure exists. Nonconforming or failed item/product is dispositioned and controlled following LMS-CP-5507.

#### Note 6

Review performance specification and Development Plan(s) for:

- Completeness and accuracy of specifications and design documentation
- Product assurance and configuration management requirements
- Required test controls and records
- Calls for special processing and/or handling
- Assembly and integration plans

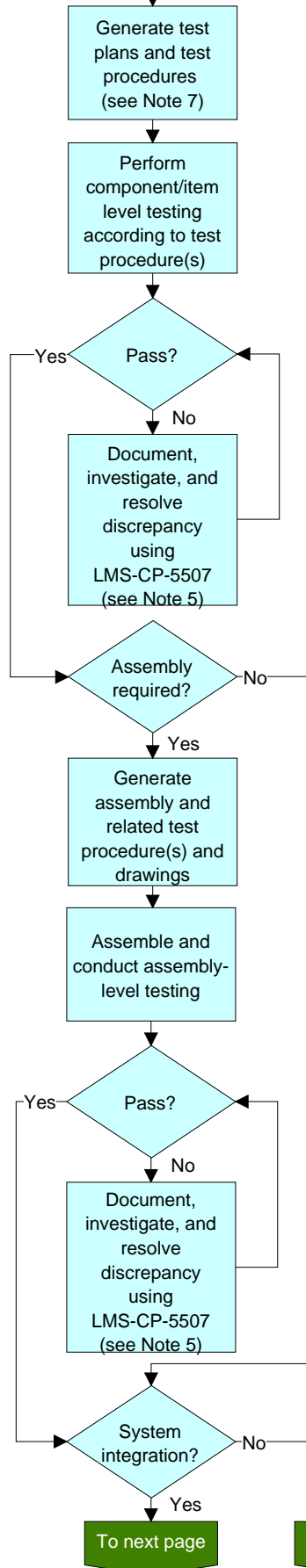
If cannot resolve issues, the requester must be advised that the activity cannot proceed. It is the responsibility of competency managers to assist in reestablishing priorities and resolving any conflicts/issues. If issues cannot be resolved, the activity must be recommended for termination.

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Technical Lead(s)/  
Team(s)

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**Note 7**

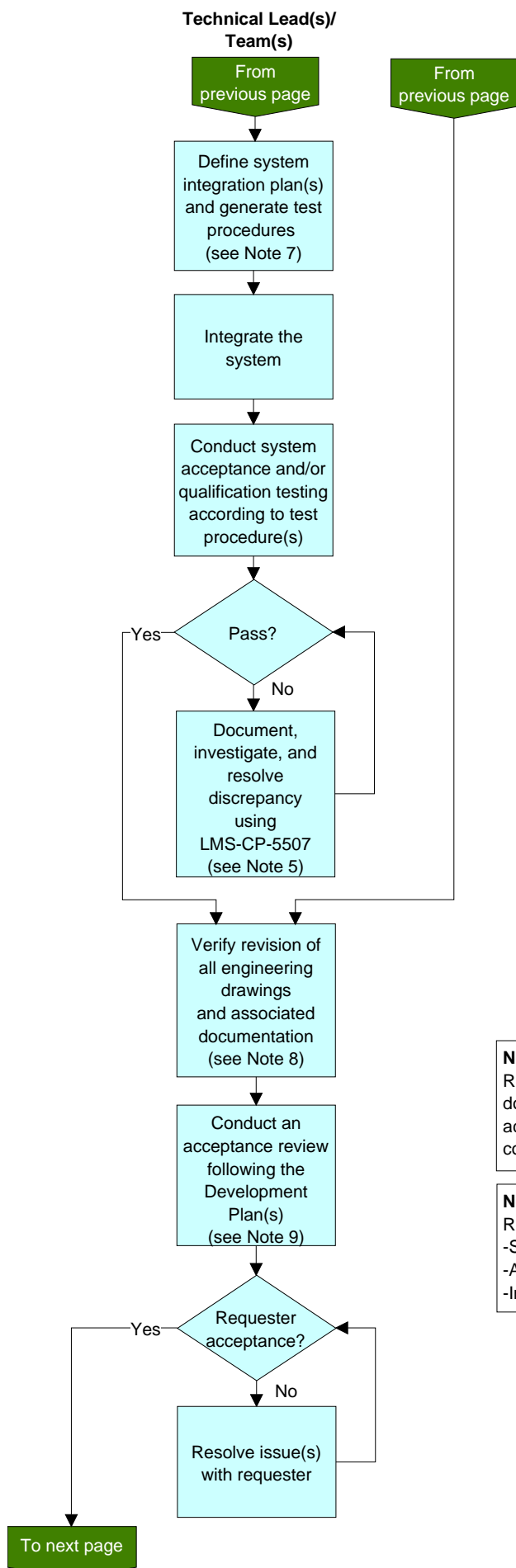
Tests may include functional and/or environmental performance evaluation, workmanship, acceptance and/or qualification and are applied at all (component to system) levels according to the Development Plan(s).

Consideration is given to off-nominal testing as proof of design.

Test procedures are developed, reviewed and approved in accordance with product assurance requirements and Development Plan(s).

Environmental testing is conducted using LMS-OP-5509.

For space flight hardware/systems, see LPR 5300.1 for procedure content requirements

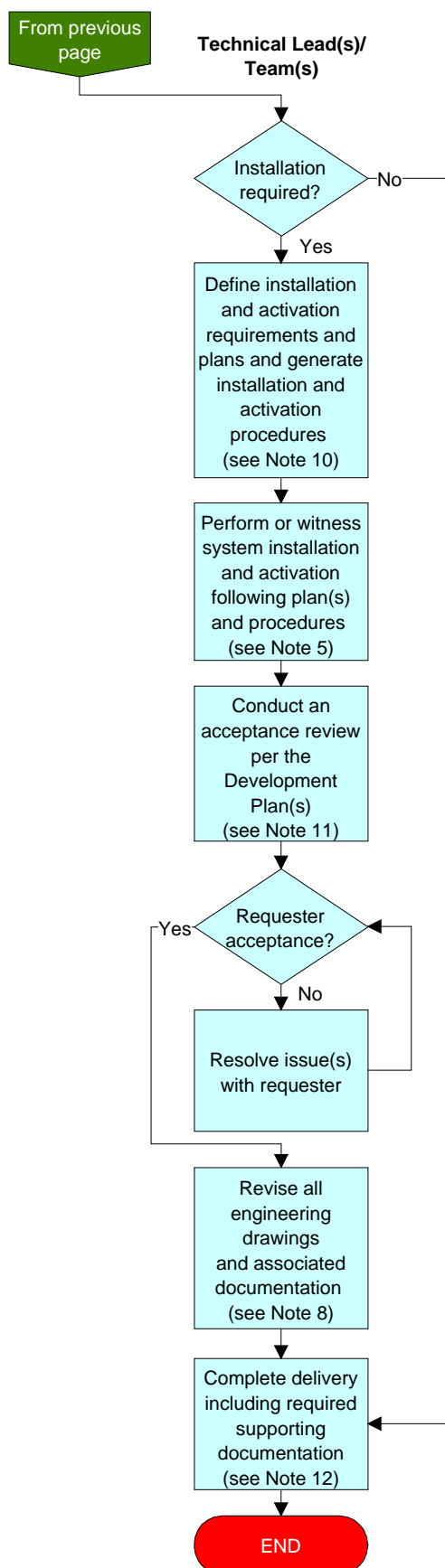


**Note 8**

Revisions of baselined Engineering Drawings and associated documentation are performed following LMS-CP-5510, in accordance with the configuration management plan, and must conform to LPR 7320.1, "Engineering Drawing System."

**Note 9**

Reviews may take many forms with the requester and include:  
-Systems Acceptance Review  
-Ad Hoc Technical Review  
-Integrated Systems Review



**Note 10**

When defining requirements and plans, technical representatives from affected platforms, vehicles, or facilities are included on the Technical Team. Installation and Activation Procedures are developed, reviewed and approved in accordance with product assurance requirements.

**Note 11**

Reviews may take many forms with the requester and include:  
-Flight Readiness Review  
-Operational Readiness Review  
-Ad Hoc Technical Review

**Note 12**

The required supporting documentation are identified by the requester in the Development Plan(s), requirements documentation, and/or Work Agreement(s).

Supporting documentation for delivery may include the following records:

- Procurement, including contract deliverables
- Design/verification data
- Latest revision Engineering Drawings
- Test procedures with results